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Students in 24 perceptual development classes for the minimally brain injured were studied to determine the effect of structured physical activity on motor skill development, to compare this effect with the effect of unstructured activity, and to determine the effect of an increased amount of time of physical activity. The Johnson Test of Motor Skill Development was administered before and after an 8-week program. The experimental group of classes was given structured physical activities; the control group had regular play periods. Results indicated a statistically significant difference between the experimental and control group ($p<.01$) with increased motor skill development occurring in the experimental group. Schedules and diaries recording structured activities used in the experimental group are included. The Johnson Test, four tables, four illustrations, and a 19-item bibliography are provided. (LE)

Memphis State University

The Effect of Structured Physical Activity on the Motor Skill Development of Children with Learning Disabilities (Minimal Brain Dysfunction)

Educational Tests, Measurements,
and Practicum Applications II
Education 4512

August, 1967

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Terry Bond
Kathy Eggers
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CHAPTER I

INTRODUCTION

In 1966 the School of Education at Memphis State University took part in a special program in undergraduate research training sponsored by the United States Office of Education under the auspices of Title IV, Elementary and Secondary Education Act. Fifteen students were selected to participate in this program based on their academic achievements. A major in education was not a prerequisite, although each of the students had had some experience in education classes. The objectives of the class were to establish in the students a basic philosophy of educational research and a working knowledge of statistical methods and research techniques.

After five months of classroom study and several practicum experiences under the leadership of Dr. Donald R. Thomsen and Dr. Jimmie C. Fortune, Professors of Education, Memphis State University, the students were instructed to write and administer a research design as a term project. The selection of a topic was left to the students, and since two members of the team had worked with children with minimal brain dysfunction, and the other two members expressed an interest in these children, a project involving the Perceptual Development classes in Memphis was decided upon.

Several designs were considered, such as a correlational study involving physical characteristics, a replication of previous studies using the Frostig materials, and a study of gross motor skills. After conferring

with Dr. Leo Kelly, Director of Special Education at Memphis State University, Mr. Fred B. Bizot, President of the Memphis Education Foundation, and Mrs. Betty Owen, Assistant Professor of Physical Education at Memphis State University, the research team selected the study of gross motor skills. Further consultation led to the final development of the design entitled, "The Effect of Structured Physical Activity on the Motor Skill Development of Children with Learning Disabilities (Minimal Brain Dysfunction)."

Administrative problems, such as the selection of the test required by the design and the acquisition and modification of the equipment necessary to the test, were solved with the assistance of Mrs. Owen.

The research proposal was submitted to the Memphis Board of Education. Their acceptance of the proposal was necessary for the research team to have access to the students in the classrooms. At a meeting with Dr. O. Z. Stevens, Director of Research, Memphis Board of Education, and Mrs. Than Morris, Supervisor of Special Education, Memphis Board of Education, the proposal was accepted and full cooperation was insured. The actual administration of the design was begun immediately.

The research team acknowledges indebtedness to the aforementioned people and would like to express appreciation for their assistance.

The authors would like to thank the following schools, principals, and teachers for their cooperation.

School	Principal	Teacher
Bethal Grove	Miss Pittman	Miss Aldrich
Grahamwood	Miss McCorkle	Mrs. Lantz
		Mrs. Poston
Leath	Mrs. Heard	Miss Parker
Lenox	Mrs. Durham	Mrs. Pollard

School	Principal	Teacher
Sea Isle	Mr. Smith	Mrs. McCarroll
		Mrs. Barnett
Shady Grove	Miss Wolf	Mrs. Schmidt
		Mrs. Smith
Sherwood Elementary	Mrs. Sevedge	Mrs. Taube
		Mrs. Alpe
		Mrs. Walker
		Mrs. Winkler
Treadwell Jr. High	Mr. King	Mrs. Castle
		Miss Forkin
		Mrs. Mayton
Wells Station	Mrs. Hyde	Mrs. Milner
		Mrs. Hankins
White Station	Mrs. Fisher	Mrs. Anderson
		Mrs. Logan
		Miss Epstein
		Miss Randle
Whitney	Mrs. Simmons	Miss Climer
		Miss Thatcher

Acknowledgement is also made to the students in Mrs. Owen's "Adaptive Physical Education" class, Spring Semester, 1967, who administered the physical education in the Perceptual Development classes. They are listed below.

Jean Waddey
Bob Smith
Maureen Kinney
Virginia Miller
Chuck Fabiano
Carol Boshers
Elliott Lehman
Bill Smith
Sarah Robinson
Terry Tippet
Karen Zeip

Special credit goes to Mrs. Nancy Appleton who always graciously gave her time and energy to any clerical work that was necessary for the completion of this study.

CHAPTER II

STATEMENT OF THE PROBLEM

Much has been done in the field of special education in the past ten years. One of the newest problems to be faced by educators in this area is the identification and proper education of children with minimal brain dysfunction. The Memphis City School System employs the following criteria[1] in the placement of children with minimal brain dysfunction into a program of special education:

1. Specific learning deficits
2. Perceptual deficits
3. General coordination deficits
4. Hyperkinesis
5. Impulsivity
6. Emotional lability
7. Short attention span and/or distractibility
8. Equivocal neurological signs

A child who exhibits these characteristics is given an extensive battery of mental and physical tests. The recommendation of the educators, parents, and medical experts involved insures the placement of the child in one of the city's small learning groups which are called Perceptual Development classes.

Great strides have been made in the education of children with minimal brain dysfunction, and many answers have been found to help educators fill the learning deficits of children with minimal brain dysfunction. The areas of visual motor coordination and perception have been of

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[1]Harold W. Perry, A Perceptual Training Program for Children with Learning Disorders (Memphis, Tennessee: Memphis City Schools, 1966), p. 2.

particular interest to educators of children with minimal brain dysfunction. But it is the conclusion of Barsch that "perception emerges from movement. The efficiency of one's movement patterns dictates the efficiency of perception. Those performances among children which have so easily been labeled as evidences of perceptual disturbances might more aptly be viewed as problems in movement."[2] Therefore, an important question yet unanswered is "What is the effect of structured physical activity on the motor skill development of children with minimal brain dysfunction?" Barsch states that "the study of human movement is inseparable from the study of learning. As man moves he learns . . . . Movement and learning are reciprocal throughout the life of the individual."[3] Failure of the child to achieve in the average classroom situation and to successfully interact with his peer group causes great damage to the child's self-concept. "...the brain-injured child ... is a natural displaced person. He has become isolated from effective cooperation or competition in human affairs."[4] "There is satisfaction for all children in the release of energy, in the approval of peers, and in the knowledge of making progress. Activity stimulates total growth. It is essential to maximum development, not only of physique and motor performance, but of personality and social adjustment...Learning requires practice, but blind practice, per se, does not necessarily result

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[2]Ray H. Barsch, "Teacher Needs-Motor Training," The Teacher of Brain-Injured Children, ed. William M. Cruickshank (Syracuse, New York: Syracuse University Press, 1966), p. 186.

[3]Ibid., p. 194.

[4]Richard S. Lewis, Alfred A. Strauss, and Laura E. Lehtinen, The Other Child (New York: Greene and Stratton, 1951), p. 20.

in improvement."[5] Therefore, this study was designed to determine the effect of structured physical activity on the motor skill development of children with minimal brain dysfunction.

For the purposes of this study children with minimal brain dysfunction were defined as those children placed in Perceptual Development classes by the Memphis Board of Education. Physical activity was defined as structured or unstructured. Unstructured physical activity was the normal play period provided for the children during which they were allowed physical activity planned or directed by the teacher. Structured physical activity was the program of physical education consisting of the following exercises:

1. Basic Locomotor Skills
2. Basic Sport Skills
3. Basic Rhythmic Skills
4. Track and Field Activities
5. Rope Jumping
6. Stunts
7. Krauss-Weber Physical Fitness Exercises
8. AAHPER Physical Fitness Exercises

The preceding program of physical activites was prescribed by Mrs. Betty Owen, M.A., Assistant Professor of Physical Education, Memphis State University, who has worked extensively with children with minimal brain dysfunction, studied under Dr. Newell C. Kephart, a leading educator in this area of special education, and is herself a recognized authority in adaptive physical education. Motor skill development was measured by performance on the Johnson Test, shown below with a diagram of the mat and score sheet used in the administration of the Johnson Test in this study:

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[5]Alleene Lockhart, "Relating Research," American Association for Health, Physical Education, and Recreation, Physical Education Conference, 1967.

THE JOHNSON TEST

1. Straddle-jump test. Stand, with hands on hips and with feet together, on the first target in the center lane. Jump forward, straddling, with feet on the first two black squares. Jump forward, landing with feet together on the second target. Proceed similarly to the last target. You must maintain a regular rhythm.

2. Stagger-skip test. Stand, with hands on hips and with feet together, behind the right lane. Step, with left foot, on the first target in the center lane; hop, with left foot, to the first black square in the left lane. Step, with right foot, to the second target in the center lane; hop, with right foot, to the second black square in the right lane. Proceed similarly to the last target. You must maintain a regular rhythm.

3. Stagger-jump test. Stand, with hands on hips and with feet together, behind the right lane. Jump obliquely to the left, landing with feet together on the first white square in the left lane. Jump obliquely to the right, landing with feet together on the first black square in the right lane. Proceed similarly across the mat, finishing on the sixth target. Throughout the test keep hands on hips and feet together, and jump rhythmically.

4. Forward-skip test. Stand, with feet together, behind either the right or the left lane. Hop forward, with the right foot, to the first white square; at the same time raise left foot behind body, and grasp left foot, with right hand, behind right thigh. Continuing to hold left foot with right hand, hop forward, with left foot, to the second white square; at the same time raise right foot behind body, and grasp it, with left hand, behind left thigh. Continuing to hold right foot with left hand, hop forward, with left foot to the second black square. Proceed similarly across the mat, finishing on the sixth target. You must maintain a regular rhythm.

5. Front-roll test. Stand in front of the red lane. Perform one front roll in the first half of the red lane. Perform another front roll in the second half of the red lane.

6. Jumping-half-turn test A. Stand, with feet together, on the first target. Keeping feet together, and executing a half turn to either the right or the left, jump to the second target. Body now faces the starting line. Keeping feet together, and executing a half turn in the same direction as the first half turn was executed, jump to the third target. Body now faces the finishing line. Proceed similarly to the sixth target where body faces the starting line.

7. Back-roll test. Stand behind the red lane and with back toward the red lane. Perform one back roll in the first half of the red lane. Perform another back roll in the second half of the red lane.

8. Jumping-half-turn B. Stand, with feet together, on the first target. Keeping feet together, and executing a half turn to either the right or the left, jump to the second target. Body now faces the starting line. Keeping feet together, and executing a half turn in the opposite direction from which the first half turn was executed, jump to the third target. Body now faces the finishing line. Proceed similarly to the sixth target where body faces the starting line.

9. Front-and-back-roll test. Start behind the red line. Perform a front roll in the first half of the red lane. Finish with legs crossed at ankles. Executing a two-foot pivot, turn body to either the right or the left. Perform a back roll in the second half of the red lane.

10. Jumping-full-turn test. Stand, with feet together, in front of either the right or the left lane. Keeping feet together and executing a full turn to either the right or the left, jump to the first black square in the same lane in front of which the start was made. Land on both feet. Proceed similarly to the fifth black square. Execute all the turns in the same direction.

Scoring of the Johnson Test

Test 1. One point is deducted for each of the following failures: to land within an indicated square or within an indicated target, for feet to land at the same time, to keep hands on hips throughout the exercise, to maintain throughout the test the rhythm of about two jumps a second.

Test 2. Same as for Test 1 except feet do not land at the same time.

Test 3. Same as for Test 1.

Test 4. One point is deducted for each of the following failures: to land within an indicated square and/or to take and maintain the indicated position for held hand and foot (only one point for each square is deducted for these failures), to maintain throughout the test the rhythm of about two jumps a second.

Test 5. The maximum score for each roll is 5. Two points for each roll are deducted for each of the following failures: to perform the roll within the left boundary of the red lane, and to perform the roll within the right boundary of the red lane. One point for each roll is deducted for the failure to complete the roll within the indicated half of the red lane. Five points are deducted for the failure to execute a "true" roll. If the subject fails to execute the first roll, he may attempt to execute the second roll in the second half of the red lane.

Test 6. Two points are deducted for each of the following failures: to land with both feet on the indicated target and to turn body in the indicated direction (only two points for each target are deducted for these failures). The turn does not need to be exactly 180 degrees.

Test 7. Same as for Test 5.

Test 8. Same as for Test 6 except that one point is deducted for the failure to make a turn of 180 degrees. (This scoring is different from the Johnson method of scoring.)

Test 9. Same as for Test 5 except that one point is deducted for the failure to execute the turn correctly.

Test 10. Same as for Test 6 except that, if the only failure is that of not making a 360-degree turn, but if a turn of more than 270 degrees is made, only one point is deducted. (This scoring is different from the Johnson method of scoring.)

SCORE SHEET

DATE _____

SCHOOL _____ TEACHER _____

NAME _____ AGE ___ MALE or FEMALE

TEST NUMBER SCORE

1. Straddle-jump _____
2. Stagger-skip _____
3. Stagger-jump _____
4. Forward-skip _____
5. Front-roll _____
6. Jumping-half-turn A _____
7. Back-roll _____
8. Jumping-half-turn B _____
9. Front-and-back-roll _____
10. Jumping-full-turn _____

TOTAL SCORE _____

COMMENTS:

TESTER _____ PRE-TEST or POST-TEST

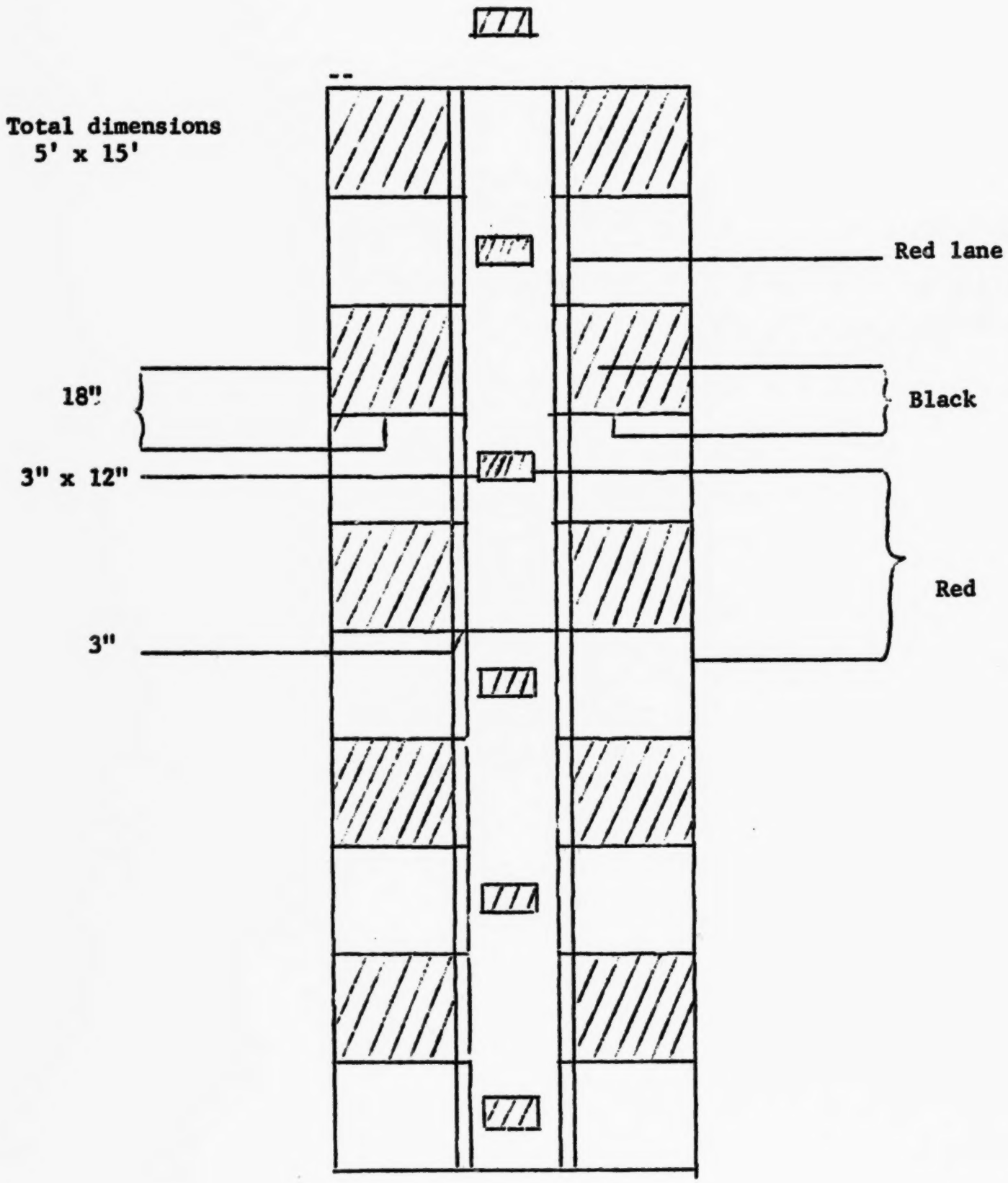

Figure XIII. Johnson Motor Skill Test: Diagram of Mat.

The design called for a test to measure gross motor skills in children with minimal brain dysfunction. No test in use currently was located by the investigators. A test that had been used previously at Memphis State University, but not in an experimental design, was the Johnson Test. At the time of its creation Johnson intended the test to be a measure of native motor capacity.[6] Further studies by Barton (1935) and Roads (1936) revealed a high correlation between the Johnson Test and performance in track.[7] Koob and Metheny (1938) reported a correlation of .969 and .977, respectively, between the Johnson Test and motor educability.[8] In order to insure a high validity, Johnson designed the test according to the basic theory that it should not require a high degree of strength or dexterity on the part of the subject children.[9] The Johnson Test, in that it does not require mastery of complex skills and is not affected by age, is readily adapted to use in testing children.

The findings cited led to the development of an experimental study in which the independent variable "structured physical activity" could be manipulated with the resultant effect of improvement on the Johnson Test reflecting improvement in motor skill performance. The brevity and simplicity of the Johnson Test lends facility to the testing of motor development in children with minimal brain dysfunction. Another advantage of

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[6]Granville B. Johnson, "Physical Skill Test for Sectioning Classes Into Homogeneous Units," Research Quarterly, AAHPER (March, 1932), p. 128.

[7]Eleanor Metheny, "Studies of the Johnson Test as a Test of Motor Educability," Research Quarterly, AAHPER (December, 1938), p. 105.

[8]Ibid., p. 110.

[9]Johnson, p. 90.

the Johnson Test is that the results are reported with discrete scores which lend themselves readily to statistical treatment. By using the Johnson Test to determine the motor skill development of children with minimal brain dysfunction, this study will answer the question "Does structured physical activity affect the motor skill development of children with minimal brain dysfunction?"

OBJECTIVES

The objectives of this study were to derive empirical evidence to:

1. Determine the effect of structured physical activity on the motor skill development in the child with minimal brain dysfunction.

2. Compare the effect of a program of structured physical activity to the effect of unstructured activity on the motor skill development in children with minimal brain dysfunction.

3. Determine the effect of an increased amount of time of physical activity on the acceleration of motor skill development in children with minimal brain dysfunction.

CHAPTER III

PROCEDURES

The experimental design selected for the study has been termed "nonequivalent control design". This design is symbolized by the following paradigm or model: O represents an observation; X represents the experimental treatment; R denotes random assignment of the treatment; the use of two comparable, but not necessarily equivalent, groups is designated by the broken line. Equivalency assumes matched pairs of subjects or complete randomization of subjects. Administrative procedures prohibit the manipulation required to insure equivalent groups. Comparable groups imply non-matched groups of subjects selected on the basis of specific criteria as were the children assigned to Perceptual Development classes.

```
   R
O  X  O
- - - - -
O     O
```

Assignment to either the control group or the experimental group was by intact class rather than by individual to a group. This design was strengthened by the presence of a control group, which serves to nullify two threats to external validity that might jeopardize the design: testing-treatment interaction and the presence of a reactive arrangement. Likewise, the problem of selection-maturation interaction was alleviated by the presence of the control group. To further insure external validity the decision was made not to inform the participants of the experimental design.

The population for this study was the 29 Perceptual Development classes in the Memphis City School System. Five of the classes included children with minimal brain dysfunction who have other special education problems. Therefore, these classes were discarded from the sample. The 24 remaining classes were divided into two groups, a control group and an experimental group. However, complete randomization of the individual students was not possible, even though the students had been assigned to the Perceptual Development classes according to no predetermined pattern. The structured physical activity was administered to the experimental group by a group of students from Memphis State University enrolled in Mrs. Owen's class of "Adapted Physical Education". The administration of the structured physical activity was arranged as a practicum experience for the physical education students.

Before the actual testing began, many administrative difficulties had to be overcome. Since no previous experiment of this nature had been undertaken, basic procedural decisions had to be made.

Color is an important aspect in the education of children with minimal brain dysfunction. It is frequently used in the perceptual phase of the child's education. After consulting Mrs. Owen, who had previously used the test with the two Perceptual Development classes at the Memphis State University Campus School, it was decided to use the colors originally designated by Johnson. The campus school was not included in the population used in the study because of previous testing experience with the Johnson Test.

The experimenters were informed by the Memphis Board of Education that tumbling mats would not be available. Because of the time and expense

involved in taping the mats it was necessary for the investigators to keep the mats at least two weeks at a time corresponding to the length of the pre-post test schedule. Various clubs, churches, and civic organizations contacted did not have mats available for this extended length of time. Finally the investigators privately secured the mats from two local high schools with which the investigators were previously affiliated. The mats were available at the local high schools only because basketball season was over and the mats were no longer needed to line the walls of the gymnasium. The mats obtained were shorter than the mats called for by the Johnson Test. It was therefore necessary to place two mats end-to-end to secure the proper dimensions required of the mats in the Johnson Test. More difficulties arose because of the bulkiness of the mats—transportation and handling presented problems for the investigators.

A pre-test schedule was devised and sent to Mrs. Than Morris, liason between the Memphis City School System and the research team. The investigators made every attempt to adhere to the schedule although it was later necessary to revise the schedule because of conflicts at various schools. Each school was called to inform them of the schedule of the investigators. Previously a memorandum had been sent from the Board informing the principals of the testing which would take place. However, the memorandum did not state the nature of the test or the necessity for a testing area. The mats, as previously stated, are quite bulky—5' X 14'. It was necessary to rearrange the classrooms to facilitate proper administration of the test. In several instances it became necessary to administer the test in a room other than the regular classroom.

The decision was made to test each class as an intact group, that is,

each child watched the other children in his class perform the Johnson Test. The children sat in chairs along one side of the mat and the two investigators administering the test sat on the opposite side. The classroom teachers were present during the administration of the test. One investigator objectively evaluated each child's performance while the other investigator was actively involved in demonstrating the exercises and answering the children's questions when necessary.

It was determined by the investigators that the purpose of the test was to measure the child's ability to perform the Johnson Test, not to perceive a pattern or follow instructions, both of which interfere with the subject children's performance on any test. Therefore, each exercise was demonstrated at least once. The children were questioned and if they did not understand what was required of them, the exercises were redemonstrated. Realizing that the child who performed last on each exercise would have an advantage over the child who performed first on that exercise the investigators rotated the sequence in which the children performed the exercises. The child who performed first on the first exercise performed last on the second exercise; the child who performed second on the first exercise performed first on the second exercise, etc.

Before the administration of the pre-test to each class, the mat and its purpose was explained to the children. The lines of the mat and the colored blocks were pointed out and the children were instructed to try not to step on the lines of the mat while performing their exercises. Any questions were answered. The children performed the exercises in their sock feet, and in the cases where girls had shorts or slacks at school they were instructed to wear them. In classes in which girls had no shorts

or slacks all the exercises were completed except the tumbling exercises. The boys then left the room while the girls completed the tumbling. No attempt was made to test the class at the same time of day.

After the pretesting was completed the physical education students in Mrs. Betty Owen's "Adapted Physical Education" class began programs of physical activity in thirteen of the Perceptual Development classes. See the schedule below:

Weekly Schedule of Administration of Experimental Treatment to Experimental Group

Class No.	Monday	Tuesday	Wednesday	Thursday	Friday
1	M 1	M 1	M 1	M 1	M 1
2	M 2	M 3	M 4	M 3	M 4
3	M 2	M 3	M 4	M 3	M 4
4	M 2	M 11	M 5	M 11	M 5
5	M 2		M 5		M 5
6		M 9		M 9	
7		M 9		M 9	
8	M 6	M 7	M 6	M 7	M 8
9	M 8	M 7	M 8	M 7	M 8
10	M 10		M 10	M 10	
11	M 9		M 9	M 9	
12	M 9		M 9	M 9	
13	M 9		M 9	M 9	

The preceding diagram represents the schedule by which the structured physical activity was administered to the classes composing the experimental

group. Each block in the diagram denotes thirty minutes of structured physical activity. M I through M II represent the individual physical education students who administered the structured physical activity. The empty blocks signify that no structured physical activity was received by the class on that particular day of each week. This schedule was adhered to during the eight weeks of the experimental treatment except in cases of illness on the part of the physical education students involved.

Not all the classes received the same amount of physical activity each week. The results of the time differences will be discussed in the statistical analysis of the data. Each class was assigned a particular physical education student. In the case of sickness or other unexpected conflict the class received no physical activity on that day.

Transportation was an unexpected problem. It was necessary to find private means of transportation to and from the class in which the physical education students were administering the experimental treatment. Mrs. Nancy Appleton, secretary of Dr. Donald R. Thomsen, graciously offered to drive the students that did not have transportation to the schools.

The general outline of the program of physical activity was prescribed by Mrs. Betty Owen. However, the specific exercises used in each particular class were left to the discretion of each student after consultation with Mrs. Betty Owen.

Since each child is an individual and has individual motor skill deficits a rigid program of physical activity was not prescribed. To insure replicability and internal validity the investigators requested that a daily log of the exercises used in the classes be kept by the physical education student who was administering the experimental treatment.

Included in the daily log were comments by the physical education students concerning the children's acceptance or rejection of the exercises and their administrative procedures. The diaries are cited below:

CLASS I - EXPERIMENTAL GROUP
Structured Physical Activity

March 30, 1967

Exercised with long rope, Kangaroo Race, Square Dodge Ball, Relay Race - running (enjoyed it). Exercises used: Sit-ups, Wagon Wheel, Side Straddle Hops, Hops on right and left, Man, Monkey and Crab Relay, Shuttle Relay, Hop Scotch - regular.

The Hop Scotch did not work at all. They could do it and perceive the lines and all. But they could not stay interested. They were especially bad today and hyperactive.

April 3, 1967

Mark has gone on half-day now and the others were a lot easier to handle. We played Freeze it and the kids got lots of good, hard exercises. They liked them.

April 4, 1967

The chain tag went exceedingly well. They really enjoyed it. The pin ball game did not go very well at all. I don't think they understood my directions. But Daryl went home sick and Lynn was still in geography so there were only 4 of them and we really needed more people.

April 5, 1967

We argued over Red Light so much that it wasn't any fun. Enjoyed Dodge Ball (regular and Keep Away). Did not want to mind too well on exercises. I think the weather is affecting them and making them lazy.

April 6, 1967

Today they played Freeze it much better. They understood that the object of the game was to run from person catching ball so one would not be hit. Really enjoyed one against three and Keep Away.

April 7, 1967

Free day. They wanted to do jump roping, but I didn't have the ropes. Also wanted to do Shuttle Relay and other relays.

Class I - Experimental Group (continued)

April 10, 1967

Rainy. We did rhythms and they enjoyed it very much. First clapped to rhythm, then walked and then skipped to the different beats.

April 11, 1967

Taught "Myian Myian" folk record in World of Fun Series. They learned the dance well enough for it to work real well just by dancing through the entire record. Two of the boys have excellent rhythm and did the steps perfectly. They enjoyed it very much.

April 12, 1967

Inside did Crabwalk, Wheel Barrow, Angleworm. Did relays with these. Really enjoyed it. They enjoy any type of relay.

April 13, 1967

Played Four Square. Soccer Dribbling and Basic game. Like it.

April 14, 1967

Free Day.
Freeze It, Dodge Ball, Keep Away, One Against Three, Ball Bouncing Relay.

April 18, 1967

One Against Three - they liked this one a lot. Soccer Skill Drills - mostly dribbling. Had to pass off to teammate on third kick.

April 19, 1967

Stunts: Forward and Backward rolls. Head and Knee Balance.
They like trying the stunts, but the ones not doing get restless and rowdy, while waiting their turn.

April 20, 1967

Outside for exercise.
Inside for stunts. Tripod Stand. Head and Knee Balance. Some do the balances perfectly and not the strength stunts and vice versa.

April 21, 1967

Stayed in part of period because they talked so much all day. Movement fundamentals.

Class I - Experimental Group (continued)

April 24, 1967

Stunts: Double Walk - partner forward and backward rolls. Some never could do double walk, because they couldn't get concept of arm supporting weight while holding with hands to other ankles.
Stunts and Tumbling for Girls - Horne.

April 25, 1967

Two lemi sticks were too many for the first time to use them. Made too much noise to hear the music. Thought the object was to make as much noise as possible. Couldn't make them understand they were to beat softly - as I did - or as the leader at the time did - to the beat of the music. Also had Bean Bag Relay while running and while in Crab Walk position. Relays didn't go well because bean bags fell off too often.

April 26, 1967

Lemi sticks again. Only one today. Also did anything could think of going around room using them to tune of Elephant Walk. Much more controlled situation today. Less noise with only one stick. They used their imagination more. All of us enjoyed it more and they got much more from it.

April 27, 1967

Free Day: Chose to be inside rather than outside.
Individual jump rope. Tug of War - great fun, divided up differently several times. Duck, Duck, Goose - couldn't keep the circle, but it is rather hard to keep a circle with only 4 in it.

May 1, 1967

Movement exploration. Worked well, but did not keep their interest very long. Duck, Duck, Goose.

May 2, 1967

Imitation and Imagination. Group in a circle. One does something while going to another person; this person must imitate and then do something of his own and go to a third person. Third person must imitate second person. and then do something of his own and so on.
Patting different body parts on verbal suggestion to rhythm. Do as I do to rhythm. I led and then Julie led. They enjoyed this a lot I think. The music helps to keep their attention longer.

May 3, 1967

Movement imitation and imagination again. Enjoyed it.

Class I - Experimental Group (continued)

May 4, 1967

Outside. Began playing Square Dodge Ball and they enjoyed it so much and were enthused so long we played the rest of the time after exercises.

May 5, 1967

Free Day. Chinned self on chinning bar I had brought. Enjoyed this very much, but only good for a few minutes. Wanted to do movement exploration to music and did quite well. Also played Fox and Hen.

May 8, 1967

Outside. Standing and running broad jump and each compared his difference. Things like this where one participates while others wait do not work well with these children. They need to all be active at once, all the time. Had basketball dribbling relay and soccer dribbling relay. Ran 50-yard dash twice. They wanted to run today for some reason.

May 9, 1967

Rhythms. Worked fairly well.

May 10, 1967

Blind-folded them and let them try to hear the ball. They didn't listen enough and rolled around on the floor too much.

May 11, 1967

Stunts. Enjoyed them; moved faster from one stunt to another and from one person to another and it went better. Stunts: Archway, Cartwheel, Rocker, Scooter, Butterball, Forward and Backward rolls.

May 15, 1967

Farmer, Fox and Duck circle ball game. Enjoyed it but we couldn't keep score so it really didn't have much of a purpose. Used circle formation and bounced ball in and out of people standing. Rolled two at a time. Self testing: seal clap, full turn by jumping around, and jumping from position on knees to a standing position. They all enjoyed it.

May 16, 1967

Jumped rope - practiced all we had gone over before. Jump Rope Relay.

Class I - Experimental Group (continued)

May 17, 1967

Softball Skills: showed how to hold bat, stance. Explained and practiced underhand and overhand throw. Practiced batting, catching and throwing. Three hits each time at bat. Rotated pitching, catching and fielding positions. Enjoyed it very much.

May 18, 1967

Free Day. They wanted softball again. Repeated. Emphasized it was not a game, just practice. They all enjoyed it again.

Note: Every day we exercised for a few minutes, and then ran. Sometimes I led exercises and sometimes they did. They always wanted to run.

CLASSES 2-5 - EXPERIMENTAL GROUP
Structured Physical Activity
(Daily Schedule for Monday)

March 27, 1967

Exercises with long rope: Sit-ups with rope over toes; toe touches with rope over toes; squats holding on to rope with hands; straddle hops holding onto rope with hands.

Fundamentals of Hop - Nagel and Moore
Fundamentals of Skip - Nagel and Moore, p. 127; divided class into teams and they practiced on fundamental; combined the two fundamentals and used them in relays.

Teaching of stunts -- Inch Worm or Measuring Worm - Horne, p. 45
Three Legged Crawl or Lame Dog, Horne, p. 45
Crabwalk - Horne, p. 44
Combined these various stunts in competitive relays.

April 3, 1967

Warm-up exercises: touching floor with hands, knees straight, toe touching with finger tips, side straddle hops with hands extended in front, sit-ups with hands extended overhead, leg raises.

Activities: fundamentals and techniques of bouncing a ball with both hands and then with one hand. Bounced ball from one person in a line to a person facing him in an opposite line. Fundamentals and techniques of rolling a ball from one person to another. Correlated this skill with playing dodgeball where you roll the ball.

Classes 2-5 - Experimental Group (continued)

April 10, 1967

Warm-up exercises: toe touching with fingertips (legs spread apart, knees straight), toe touching from lying position, leg raises - contest to see who could hold legs up the longest, agility drills (stand up, sit down, on back, on stomach, on feet and on vocal commands). Proper breathing techniques.

Relays: running - backward and forward, bouncing ball - both hands, left and right hands, forward and backward in direction while bouncing ball; crawling relays - crawled backward and forward.

April 17, 1967

Warm-up exercises: toe touching, truck twisters
Jumping exercises: Kangaroo jump - start in squatting position with knees flexed and hands on hips. When jumping they jumped as high and forward as possible and land in starting position. Jump and reach: pupil stands erect with hands over head, brings arms down and then up with great force while jumping as high as possible and ending up in starting position.
Fitness exercise: Tortoise and Hare - pupils run in place slowly, like a tortoise; and at command of hare they run in place as hard as possible. Emphasis on running coordination, stamina, and building of large muscles in legs. One-foot balance.

Running Relay: two teams with batons being passed from one member to another.

April 24, 1967

Warm-up exercises: pushups - only boys, sawing wood, pull stretcher, leg lifts - contest to see who could hold legs up the longest - good effort by all the classes, sit-ups - straight legs. All classes are improving in coordination and stamina. It is most evident in exercises.

Activities: one foot balance - both legs were used in attempt to improve kinesthetic sense - wide variety in ability in the classes; tortoise and hare; agility drills - class followed vocal commands as fast as possible - commands were on your back, stomach, knees, feet. Relays - running. Four games of dodgeball (rolling ball on the floor).

May 1, 1967

Shuttle Relays; Bean Bag Relays - holding bag in both hands while running and balancing bag on head. 1-2-3 Jump Race. Obstacle relays - using rope, lying on floor and used for hurdles, and chairs set up to run around. Hop-step-jump fundamentals - use of ropes to mark how far each individual jumps.

Classes 2-5 - Experimental Group (continued)

Daily Schedule for Tuesdays

March 28, 1967

10 minutes vigorous exercisees: Sit-ups - 10 with bent knee and hands behind head. The children worked in partners while one did the exercise the other held his feet, then reverse positions. Chest leg lifts - 10 times with hold on 5 and 10. Toe touches - 10 times. Hops - 10 on each foot. Squat thrusts - 5 or 6 times. Grass drills - run in place, sit down, stand up, on back, on stomach, slide to right and left, hop, jump.

Relays: Crab Walk, Lame Dog

Evaluation: On the whole the children did very well on the exercises. Only a couple of children could not do the sit-ups in the prescribed manner, but with modifying it to straight legs and arms above the head they were able to perform the exercise. They did well on the rest of the exercises and enjoyed learning the squat thrust or "burpee" as they more readily remember it. Their reaction time to the grass drills was a little too slow. It seems to me that these children loved to compete in relays of any type. Although both age groups were jointly participating today, the younger group competed with their age group as did the older group. They grew noisy and very excited during the game, which I felt let loose some of their over-abundance of energy and activity. One trouble with competition while performing stunts is that they fail to do the stunt correctly. Several had saggy bottoms on the crabwalk and draggy feet on the lame dog. They had to be constantly reminded of these things.

April 4, 1967

10 minutes vigorous exercises: Side straddle hops - 10 times. Side straddle hops on the count of six - 10 times. Burpees or Squat Thrusts - 10 times. Toe touches - 10 times. Wave drills. Hops - 4 one each foot then change, 2 one each foot then change, 1 each foot then change.

Rhythms: Use of lemi sticks - beat time on sidewalk of 2/4, 4/4, and 3/4 meter.

Evaluation: Since the room in which we usually give instruction was taken, we had to make arrangements to go outside on the practice football field. They liked having the large amount of space in which to move. The older boys had a tendency to move too far away from the instructor while the younger group was constantly moving closer toward the teacher. We again had both age groups together for the introduction of rhythms, which made the group almost too large for this type of student to function efficiently. The children were not any more careless than average children when it came to using the lemi sticks. There were a few instances of their being used as swords and guns instead of rhythmical instruments. We learned from this lesson that they are not able to comprehend as much new material as was

Classes 2-5 - Experimental Group (continued)

presented. It was definitely decided to divide the group according to age for further teaching of rhythms. One interesting thing was their inability for the most part to smoothly do a step, hop, step, hop in place, but when you asked them to skip they could easily do it. They see little relationship between similar things or ideas.

April 11, 1967

10 minutes of vigorous exercise: Stretch up on tiptoes and act as if climbing up a rope. Side straddle hops - 20 times. Side straddle hops on the count of six - 10 times. Touch toes, squat, touch toes and back - 15 times. Burpees - 5 times. Grass drills - no verbal directions, simply reacting by watching instructor.

Rhythms: Review material covered on 2/4 meter. Clap hands in 2/4 time. Lemi sticks - beating 2/4 time on floor, hit on "1", up on "2"; beating 2/4 time on floor - hit top of stick on "1" and then turn stick perpendicular to the floor and hit the bottom on "2"; combination of these two exercises; forming two lines facing a partner; repeat second rhythm exercise (above) and on the next "1, 2" hit the floor on "1" and your partner's stick on "2"; learn "If You're Happy and You Know It" using claps, stamp your feet, stand up, sit down, do all three.

Evaluation: Today on the grass drills the children did exceptionally well. They had to follow without verbal cues. It seems to me that they really enjoy working with the lemi sticks. They just couldn't wait until it was time to use them. The only trouble was their tendency to want to bang the sticks when instructions were being given but this reaction is common in the average classes also. As long as only one pattern for hitting the sticks was given, they did fine. But when it was combined with another pattern many could not pick it up until they were physically directed through the movement. Some of the children already knew the song, but several didn't. They picked it up readily and wanted to continue singing past class time.

April 18, 1967

Exercises: Sit-ups - 10 times. Head-shoulders-knees and toes. Touch elbow to knee - 15 times (opposite elbow and knee).

Rhythms: Lemi sticks using two sticks beating on the floor and moving around in a circle with "Pop Goes the Weasel". Began lead up to learning schottische step by taking 3 steps and clapping on the fourth beat. Follow the leader using lemi sticks and various locomotor movements around the room. Singing.

Evaluation: I am so excited today because they were enthusiastic about everything we did today except the schottische. I feel that part of this was my fault because the schottische record that I used was too fast for

Classes 2-5 - Experimental Group (Continued)

them. They did fairly well without the music. I am going to try it again with a slower record. Some of the children had trouble touching their elbow to the opposite knee. They had a tendency to want to touch the same knee and elbow.

May 2, 1967

Exercises: Rotation of head one direction then reverse. Shrug shoulders up and down beginning slowly and picking up speed. Circular movement with arms. Fling arms back with elbows bent then swing arms back extended. Bounces - 4 times to front, back, and sides; repeat bouncing twice, then repeat bouncing once; repeat entire exercise. Toe touches. Side straddle hop. Run in place. 10 sit-ups. 5 push-ups.

Rhythms: Learn looby loo. Learn hokey pokey. Follow the leader allowing students to take turns being leader. Sing.

Evaluation: The children did much better today. I gave them more rigorous exercises since this will be a good way to keep them from becoming rowdy. It worked well. They paid much better attention. They participate well in the singing and action songs, but they just weren't as enthused about this as some other things we've done. They really enjoy singing songs before going back to class. Their patterns of movement on their exercises has improved greatly. Most of them can do sit-ups without much trouble now.

Daily Schedule for Wednesdays

March 15, 1967

Exercises: The first three exercises utilized a long jump rope which had the ends tied together and which was held in a taunt circle by the children while performing the activities. 5 sit-ups with hands extended above head. 5 chest/leg lifts with right arm and left leg, then reversed while on stomach (many found this difficult because they didn't have a right and left concept). 5 toe touches (done rapidly without any problems). 10 hops on each foot (this was easy for most of them and they were able to keep their balance fairly well).

Games and other activities: Jump 1-2-3 - Latchaw, p. 213. Kangaroo Ace" - Latchaw, p. 193, (modified so that no object was held between knees. First time everyone jumped, second hopped on right and third hopped on left. They seemed to enjoy this very much). Rescue Relay - Latchaw, p. 205, (they couldn't follow instructions even though it was explained. Much of this was due to faulty teaching methods for I failed to watch them through the entire game).

Classes 2-5 - Experimental Group (continued)

March 29, 1967

Exercises: Limbering up - bend forward at waist bouncing five times, right 5, back five and left five; each cycle reduce the number one. 5 bent-knee sit-ups (most could do those easily but two or three could not). Touch toes 5 times. 5 burpees.

Activities: Demonstrated kicking soccer ball with the side of the foot. Demonstrated foot and knee trap. Divided class into groups of three and four to practice kicking and trapping. (The children enjoyed this a great deal and didn't want to stop. Accuracy improved a great deal when they learned not to kick it with all their might with the toe.) The children begged to play soccer and dodgeball next time.

April 5, 1967

Exercise: Jumping jack - 10 times. Bent knee sit-ups - 10 times (there is a wide variety of skill level here. Some of the boys could far exceed the number easily while others can barely do one correctly by themselves. As could be expected, the ones having trouble are overweight). Stretch and droop - 10 times (the children don't follow directions very well here for they anticipate the next stretch). Limbering up. Hopping - right 10, left 10, both 10.

Activities: Rescue relay (Miller and Whitecomb, p. 102), the children were unable to do it March 15 when it was explained only. This time I walked everyone through it, they understood it, and enjoyed it a great deal. Sore toe relay (Smallery, Jeanette, Physical Education Activities for the Elementary School. Palo Alto, Calif: The National Press, 1956, p. 66.) The children were enthusiastic but had difficulty holding their foot and maintaining balance simultaneously. One heavy boy couldn't reach his foot and so made excuses why he cou'dn't play. His hop was adapted so he didn't have to hold onto his foot. He participated rather reluctantly after much coaxing.

Daily Schedule for Thursdays

March 30, 1967

Due to a mix-up in the scheduling of our class time we were unable to give instructions at this date.

April 6, 1967

10 minutes of vigorous exercise: side straddle hops - 10 times. Side straddle hops on the count of six - 10 times. Sit-ups - 10 times with bent knees and hands behind the head - work in partners. Toe touches - 10 times. "Burpee" or Squat Thrusts - 10 times.

Classes 2-5 - Experimental Group (continued)

Rhythms: Begin instruction on 2/4 meter; explaining meter briefly, count 1, 2, 1, 2, without music, clap hands on 1 open on 2 counting aloud without music, listen to music, count music without clapping, count music while clapping, march in time with music, march and clap in time with music, ask students to create movements which could be done to the 2/4 rhythm and lead the class while doing them with the music, review material covered by asking questions.

Evaluation: When I left class today, I felt very rewarded in my efforts. Two heavy-set boys who were unable to do the bent leg sit-up at first did several with straight legs then tried and succeeded at doing them with bent knees. Before class began I learned all the children's names and what their favorite exercise was that we had done; when class began with our exercise period, I called on those children to lead their favorite exercise. They liked being leaders and everyone wanted to lead an exercise. As far as rhythms go, they could keep with the music fairly well while just clapping or marching but had some difficulty when they tried both at the same time. All students wanted a chance to show the class what movement they had created to be done to the 2/4 beat. I let those who hadn't led an exercise lead. When I reviewed them at the end of class, they surprisingly remembered the main points I had stressed.

April 13, 1967

Exercises: Sit-ups - 10 times. Chest lifts - 10 and hold on 5 and 10. Side straddle hops - 10 times. Bend over with legs spread, knees straight trying to touch as far behind their toes as possible. Toe touch, squat, toe touch, and back up - 10 times. Grass drills with music.

Rhythms: Head, Shoulders, Knees, and Toes - action song. Lemi sticks with music.

Evaluation: Today was primarily a repeat of things we've previously done to make sure they understand and can perform the movements. I can see an improvement every time we repeat something. They seem to be retaining much of the instruction.

April 20, 1967 - Free Choice Day

Exercises: Jumping jacks - 20 times. Touch elbow to knee - 10 times. Jumping jacks on the count of six - 5 times. Running in place at different speeds. Isometric pushing of palms against palms.

Rhythms and Games: Lemi sticks using 2 sticks with music and hitting partner's stick. Bean Bag relay. Skipping relay. Singing. Follow the leader.

Evaluation: Today I tried to let everyone choose his favorite activity and it worked spendidly. They all actively participated. Those that chose the exercise also led it in front of the class.

Classes 2-5 - Experimental Group (continued)

This was the first day to use two lemi sticks with music (2/4) and also with a partner. It was difficult for them to get the beating pattern of the lemi sticks, but after going over and over it and giving individual help they accomplished a lot. There was little trouble with performing well in the bean bag relay or the skipping relay. They all enjoyed any form of relay. They seemed to be reluctant to stop when the time was up today. This was one of the best classes so far.

April 27, 1967

Exercises: Side straddle hops on the count of six - 25 times. Toe touch, squat, toe touch, back up - 10 times. Arm exercises swinging both arms in circular patterns forward and backward increasing speed and quickness of change of pattern. Running in place alternated with trotting and walking. Toe touch - 15 times. Work on step, step, step, hop (schottische without music).

Relays: Used various locomotor movements with: walk, run, skip, hop, gallop.

Evaluation: Because the auditorium was being used, the lesson was held outside on an unused section of a private driveway. This was the first time I have had them outside since the first lesson. For some reason they were unusually noisy and preoccupied with watching other children on the playground to pay attention to what I was saying. Because I had warned them that unless they quieted down I would take them in, and since they did not, I let them go in early. They were not too pleased by this. As for presenting locomotor movements, I believe that using relays would be a good method. These children love any form of relay, and normally this would have held their attention, but for some reason, today they had the "can't help its". Their side straddle hop using six counts is improving. They are beginning to see the pattern and can do it better as a group together.

May 4, 1967

Exercises: (Free choice) Side straddle hop - 20 times. Side straddle hop on count of six - 5 times. Run in place. Squat thrust. Burpee. Push-ups.

Rhythms with Balls: Bounce balls down in time with music. Balls tossed up in time with music. Combination of these two. Bounce turn around and catch. Bounce to partner. Bounce and toss with partner. Singing.

Evaluation: The children did exceptionally well with their bouncing the balls and also with keeping time with the music. It held their interest for a good length of time.

Classes 2-5 - Experimental Group

Daily Schedule for Fridays

March 31, 1967 (Younger group)

Approximately 25 minutes of activity. Class met in the auditorium for exercises and then went outside for other activities.

Exercises: Limbering up - 10 times. Stretching and reaching as high as possible, then falling limp from waist - 5 times. Toe touch - 10 times, touch right foot with left hand and vice versa. Burpee - 10 times. Bent knee sit-ups - 10 times. Extend arms to side at shoulder level and make small circles gradually increasing the size. Reverse direction of circles beginning small and working up.

Activities: Reviewed kicking and trapping soccer ball. Circle kick soccer - (Vannier and Foster, p. 160) modified so that the child wasn't eliminated. Soon evolved into a game to see who could kick hardest and so was halted. Running - they were winded easily.

The children have been enthusiastic about almost all of the activities that we have done, but they don't care as much for exercise.

April 7, 1967

Approximately 20 minutes of activity. Class met in the auditorium for exercises and then went outside for other activities.

Exercises: 10 Burpees. Limbering up. 10 bent knee sit-ups. Circles. Hopping - changing feet on command.

Activities: Locomotor relay (Miller and Whitecomb, p. 101) utilizing running, skipping, hopping and jumping. The children were more interested in winning than the activity itself. They were virtually impossible to control. Ball handing skills - chest pass, bounce pass, catching a thrown ball with hands on both sides of the ball and fingers spread. Most of the children were very unenthusiastic about the activity, "cut up", and seemed to take great pride in doing the activity incorrectly, running around the playground as a group.

This was about the worst day I have had, and I feel that this is all due to the behavior. Six of the children were extremely hyperactive and the seventh was extremely lethargic. Consequently, you couldn't keep them calmed down long enough to satisfactorily complete any activity. I honestly wondered if some of the children had had their medication. Other causes might have been because it was Friday or they were keyed up or excited as a result of the test they had just had.

April 12, 1967

The class met for about 30 minutes in the auditorium for exercises and then

Classes 2-5 - Experimental Group (continued)

on the playground for the other activity.

Exercises: Jumping jack - most of the children had no problem. One boy could get the correct movement for arms and legs but couldn't seem to get them coordinated. I don't think he has had trouble with it before. Wing stretcher - the children wouldn't keep their elbows at shoulder height. Bear hug - the children didn't seem to have the flexibility to do this. They also had a tendency to stand straight, bend the knee, and bring the knee to the chest. Sit-ups - some of the children still cannot do 10 bent-knee sit-ups without somone helping them up. Sawing wood - a few had difficulty with coordination on this one. We had to work on stepping forward with several of the boys. They entered into this activity enthusiastically and some of them were really too rough. One foot balance - all the children tried this but few did it correctly. They couldn't get the left leg and trunk parallel to the floor.

Activities: Back and forth relay (Miller and Whitecomb, p. 102) the children eagerly participated and seemed to have no problem counting the number of trips to each line and so could follow the directions without much difficulty. A few of them would not make sharp turns when running to the next line but ran in large circles instead.

April 14, 1967

The class met for about 30 minutes in the auditorium for exercises and then on the playground for the other activities.

Exercises: Wing stretcher - most of the children can do this without any problem, but three or four cannot keep their elbows up. There is no resistance when you raise their elbows and help them, but once you release their elbows they immediately fall. Bear Hug - the children did better today. They responded better when I told them to put their arms around their leg and place their nose on their knee while keeping the knee straight. Burpee - they have some difficulty maintaining balance particularly when going from the squat to thrust and back to squat. Running in place alternating speed according to command. There was some difficulty making the transition from one speed to another. Arm circles. Pull stretcher - many of the children were not flexible enough to obtain the starting position. There was a lot of unnecessary roughness. I think they definitely need more of this.

Activities: Bounce and kick relay - I combined the Bounce Ball Relay (Halsey and Porter, p.317) and Run Up and Kick Back Relay (Miller and Whitecomb, p. 104) into one relay. The group was divided into two teams. The first on each team dribbled the ball to a rope line, placed it on the line and kicked it back to the next person in line who repeated the actions. The children need more dribbling practice as well as kicking accuracy. Pass and Squat Relay (Miller and Whitecomb, p. 104) they could generally catch and pass the ball without too much trouble but they often would

Classes 2-5 - Experimental Group (continued)

either try to pass the ball while squatting or would not squat at all.

April 19, 1967

The class met for about 30 minutes in the auditorium for exercises and then on the playground.

Exercises: Toe touch. Biceps builder - they had some difficulty because they didn't seem to understand that they were supposed to resist with one arm as they flexed the other. One foot balance - the children are getting better at this but have a great tendency not to cooperate insofar as they try it and quit without trying to maintain their balance for as long as possible. Jump and reach. The sprinter. Sit-ups - some of the children are still having considerable difficulty.

Activities: Forward and Guard (Halsey and Porter, p. 328) I explained the game inside and had several children demonstrate the activity. When we went outside they went wild and would not listen for the whistle as they were instructed. They would fail to shop when the second whistle was blown. In an attempt to overcome this, I had them all get on one side of the blacktop and run to the other, turn around and return to the starting side. After a while they responded fairly accurately to the whistle. I tried playing the game again and I had bedlam once more.

April 21, 1967

Approximately 30 minutes in auditorium and playground.

Exercises: Limber up, Sprinter, Kangaroo - the children didn't like this one too well; One foot balance - I am still having some problem with cooperation; Squat thrust, Side flex, Leg raise, Sit-ups.

Activities: Pom Pom Pullaway (Halsey and Porter, p. 340) they enjoyed this but some of them would not follow directions. On one turn some would run to the other line and return to the starting line on the same time rather than wait until they were called away.

April 26, 1967

Approximately 30 minutes with all children inside auditorium.

Exercises: Limber up, Burpee, Stretch, Jumping jack, Sit-ups, Running in place - 5 counts, then grasp one bent knee at the chest and beats, then the other knee and beats. Repeat. Touch the floor - keep the knees straight and the feet slightly apart. Bend at waist and touch in front of the toes on 1; at toes on 2 and behind heels on 3. Stand erect on 4.

Activities: Shuttle run - one goes down, picks up wood and places it behind line A. No. 2 runs down and picks up the wood behind line A and places

Classes 2-5 - Experimental Group (continued)

it behind line B. Continue until all players have run. The first group through is the winner.

April 28, 1967

Approximately 30 minutes all inside.

Exercises: Toe touch, Jumping jack, Run and hold knee, Jumping jack with one foot forward and the other back, instead of sideways, (some of the boys had real problems with this), Limber up, Sit-ups.

Activities: Overhand throw - the mechanics of the throw such as arm position and movement and position of the stepping foot were practiced by going through the motions of throwing. Children then used bean bags. Underhand throw - same procedure as above. Catching - emphasized thumbs together on catches in front of the chest and little fingers together on catches below the chest. Practice catching bean bags; the children enjoyed the bean bags but their throwing was not very purposeful other than to see who could throw the hardest and farthest. Sprint starts from a crouched position.

May 3, 1967

Approximately 30 minutes in auditorium.

Exercises: Jumping jack in 6 - On (1) jump straddle, (2) together with arms maintained at side, (3) jump straddle with arms to side at shoulder height, (4) arms down, feet together, (5) jump straddle with arms over the head, (6) return to starting position; the children were excited about this one since they had taught it to me the week before. Bear hug. Running in place and hold knee. Sit-ups.

Activities: Reviewed throwing, overhand and underhand. Reviewed sprint starts. Learned broad jump (standing).

May 5, 1967

Approximately 30 minutes inside and on the playground.

Exercises: Jumping jack in 6. Limber up. Circles. Leg stretch. Burpee. Touch toes. Sit-ups.

Activities: Reviewed broad jump. Learned to pass a baton in a relay from face to face position. Ran a relay passing the baton (lemi stick). Reviewed throwing, particularly for distance. Threw bean bags for distance on the playground.

CLASSES 8 & 9 - EXPERIMENTAL GROUP
Structured Physical Activity

Daily Schedule for Mondays

March 27, 1967

5 chest/leg lifts with right arm and left leg and then with left arm and right leg.
5 toe touch - Mathews, p. 84
5 bent-knee sit-ups - Mathews, p. 81
10 side straddle hops - Nagel and Moore, p. 115
Crabwalk - Horne, p. 44
Three Legged Walk/Lame Dog - Horne, p. 45
Cat Walk/Inch Worm/Measuring Worm - Horne, p. 45
Skipping - Nagel and Moore, p. 127

The students did very well on everything. The sit-ups need to be increased because they can do five easily. They could all do the stunts. All but one could skip. He could do it if he did it slow, but when he tried to go fast he messed it all up.

April 3, 1967

Running in place (2 minutes) - State Dept. of Educ., p. 162
Wood chopping - 10 times - State Dept. of Educ., p. 94
Chinese Get-up - 3 times - State Dept. of Educ., p. 62
Kick-ball - Blake and Volp, p. 121

They could do the exercises easy enough, but most of them had trouble doing the Chinese Get-up. They either didn't push hard enough against each other or they wanted to pull each other over their backs. It didn't turn out too well. They really like kick-ball and they do well at it. The team that lost, of course, did not like it as well as the team that won. Both groups were together today.

March 12, 1967

Toe touches - 15 times - Mathews, p. 84
Alternate toe touch - 15 times - State Dept. of Educ., p. 117
Hop on each foot - 10 times each foot
Corkscrew - State Dept. of Educ., p. 84
Strait jacket - State Dept. of Educ., p. 84
Sit down and get up - State Dept. of Educ., p. 32
Eraser Relay - Halsey and Porter, p. 325

They did not do as well today. I think it was because they had to stay inside. They had no trouble with the exercises, but they had quite a bit of trouble with the stunts. Only one or two could do the stunts right. They did strait-jacket the best, but they had a lot of trouble with corkscrew. They really enjoyed the eraser relay and they did it real well.

Classes 8 & 9 - Experimental Group (continued)

March 27, 1967

Chest leg lift with rope - 10 times
Toe touch - 15 times - Mathews, p. 84
Bent knee Sit-ups - 15 times - Mathews, p. 84
Side Straddle Hop - 20 times, Mathews, p. 115
Crabwalk, Lame Dog Walk, Inch Worm - 2 minutes each
Skipping - 2 minutes

They liked the grass drills although it was in the room. We made a game out of Lame Dog and they also liked this. They did all the exercises easy but had trouble with the Bent knee Sit-ups. Their skipping was not that good and on the Toe touch they did not get their toes, almost but not quite.

April 3, 1967

Chinese Get-up - 3 times
Running in place - 2 minutes
Wood chopping - 10 times
Kick ball - Volp, p. 121

Carol and I worked the classes together and also we had a class of the emotionally handicapped children. In Chinese Get-up they did better than before. In running in place most of the children did not want to stay in the same place to run; they still want to move around. On the kick ball, they played together well, but they fussed at one another a little; Carol stopped that fast. None of the children liked to be on the losing team.

April 10, 1967

Toe touch - 15 times
Hop on each foot - 15 times on each foot
Alternate Toe touch - 15 times
Wood chopping - 15 times
Running in place - 2 minutes
Push-ups - 10 times
Strait jacket - 4 times
Eraser Relay

Today was a bad day; the children didn't do anything I said; I had to almost beg them to do anything. I guess it was because the weather was bad and the children were restless.

April 17, 1967

Squat thrust - 5 times - Mathews, p. 114
Side Straddle Hop - 10 times
Wood chopping - 5 times

Classes 8 & 9 - Experimental Group (continued)

Soccer dribble skill - Nagel and Moore, p. 229
Pin dribble - Nagel and Moore, p. 230
Soccer kick ball - Nagel and Moore, p. 237

I had a little trouble with getting them to listen today. They all seem to like the soccer type games, but some of the boys want to kick the ball too hard. Most of them could dribble, but they only want to dribble with one foot and it is hard to get them to use both feet and to use the inside of the foot instead of the top of the foot. They really seem to like soccer kick ball and they were doing real well but I ran out of time as usual. I think I will let them play that game next time so they will get a better understanding of the game.

April 24, 1967

Waist-bends - 10 times - State Dept. of Educ., p. 161
Toe touches - 10 times - Mathews, p. 84
Wood chopping - 5 times
Alternate toe touches - 10 times
Running in place - 3 minutes
Side straddle hop - 10 times
Baton pass relay - Scott and Crafts, p. 54
Basketball throw - Scott and Crafts, p. 114
Basketball shuttle relay - Meyer and Schwartz, p. 6-7

They did everything pretty good except the basketball shuttle relay. I had a lot of trouble trying to get and keep their attention today. I always have more trouble on Mondays with this problem than on Wednesdays. I don't know why, unless I have been away longer or because they have just finished the weekend. We are not having as much trouble with the boys picking on the girls or the girls picking on each other as we were having.

April 17, 1967

Squat thrust - 5 times
Side straddle hop - 10 times
Wood chopping - 5 times
Soccer Dribble skills, Pin Dribble, Soccer kick ball

They could not do the dribble very well, they would kick the ball too far, lose control and then would seem to get mad at themselves for not being able to do it. They did all try it. They did like the kick ball but had to keep telling them about using their toes. They would kick their toe instead of the side of the foot.

April 24, 1967

Running in place - 3 minutes; Side straddle hop - 10 times; Alternate toe touches - 10 times; Waist bends - Staley, p. 56-57; Baton pass relay;

Classes 8 & 9 - Experimental Group (continued)

Basketball throw; Basketball shuttle relay.

They liked the relay real well. They like to compete against each other. On the exercise they don't seem to want to do them; they will not try some days to do the exercises.

May 1, 1967

Toe touches - 20 times; Bent knee sit-ups - 15 times; Running in place - 4 minutes; Side bends - State Dept. of Educ., p. 162; Wing Stretcher - 15 times; Leg lifts - 10 times; Alternate toe touches - 15 times.

Today it rained hard and we got there late. I exercised them for the whole period in the room. They did real well. I did not think they would do them, but they did.

May 1, 1967

Bean bag balance relay - Miller and Whitecomb, p. 103; Cootie relay - Latchaw, p. 297; Corner spry - State Dept. of Educ., p. 128; Arithmetic relay.

They seemed to really enjoy it. I let one of the students play one of their own games because she had wanted to for the last couple of weeks and I told her she could when we got a chance. I can't remember all of it, but it was a singing game called Dr. something. In the song you stamp your feet, clap your hands, roll your eyes, and wiggle your hips. It was real cute and most everyone joined in. The boys were a little hesitant, but they did it. They enjoyed watching a roommate doing the teaching.

Daily Schedule for Tuesdays

March 28, 1967

I started the session by introducing myself to the teachers and the class. The children seemed very anxious to go outside and play. I started with exercises such as: 10 push-ups, 10 sit-ups, 10 square thrusts, 10 jumping jacks, and 10 alternate squat jumps. This free exercise period lasted about 10 minutes. Then, I had the children stand in place and cool off. Some of the kids did the exercises well, while the others seemed afraid to do them. This fear was gathered from the ones who might never have been taught how to apply themselves and function in the right manner. There were quite a few kids who were very athletically inclined. Others did not care for such activities. However, if I saw a child slacking, I pointed him out and made him work harder. After the exercises, I had them do hopping exercises on each foot. The basis for this stunt allowed the children a proper sense of balance and coodination while accomplishing a difficult task. The children's reactions to this stunt was very enjoyable.

Classes 8 & 9 - Experimental Group (continued)

When I alternated the foot, some children did not remember what foot they had used first. We also did some relay races. (Run up and hop back.) As I was giving instructions to these exercises and games, some of the children were not paying attention. This burned me up, as the teachers said that I was the boss. I was bossy but demanded respect and attention. Naturally, I got it. Also, I had the class do jump rope coordinating exercises. The teachers felt as though I handled myself real well and were looking forward to my return. The children also liked my presence.

April 4, 1967

I always start the sessions by putting the kids in learning lines. This way enables me to see everybody, and pick out the ones with the bad faults. The ones, the troublesome ones, I put up front. This procedure follows all except for the girls. At the beginning of the period, as has happened before, some kids gave me trouble. However, today I did something special which helped me in my next session. At the beginning of the period, I gave my usual free-exercises period. The activities that I gave were push-ups, sit-ups, leg raises, and toe touches. Since this is the 4th period in which I have had these kids, their work in the free exercise period is becoming greater. The game that I wanted to play was beat-beat. However, I did not play this game. The children were very rude this period and nothing could be done. So I played kick ball so they could be accustomed to beat ball for the next week. They played the game with vigor and enthusiasm. This session I had trouble with Bill and Mark but took them aside and spoke to them. I stressed to them the importance of respect and courtesy in paying attention to me and their teachers. This talking session took up 15 minutes. Also, two boys started a fight and accidentally hit a girl. I took them aside and reprimanded them to the most degree. As the general procedures go for speaking to them, I said everything in the book. I feel like a father on the job and do it the best I can. An important point that I told them was: "If you kids start any more trouble, I will take you all to the principal." I ordered to get respect and courtesy from the children; you must mean business and scare them. I accomplished and felt very good after this session. The teachers felt that I did the right thing and were very happy with my handling of the situation.

April 18, 1967

Alternate toe touches - 20 counts; chest builder - 20 counts; Push-ups - 5 counts; Sit-ups - five counts; Jumping jacks - 20 counts.

After I gave them these basic warm-up exercises, I started them on a track routine. I had the children line up in single file. Each of them ran a 25-yard dash for a time. After this I had them pair off into teams. This made for team relay races. Before this, I instructed them on how to pass the baton to the next person. Some executed this exercise very well. However, others very rarely obey my commands. After this team relay race

Classes 8 & 9 - Experimental Group (continued)

was completed, I again had them line up in a double file. Then, I taught them the sprinteres start in track. I had them get down in the right hand and leg position. After this, I taught them the proper reaction positions and rising up before taking off. As I gave them the various commands, on-your-mark, get-set, go, I looked for their reactions. Some of the children reacted quickly while others were very slow reacting to what I had said.

April 25, 1967

Class did not meet.

Daily Schedule for Wednesdays

March 15, 1967 (younger group)

Exercises with long rope: Sit-ups - 5 times; Chest leg lifts with right and left leg and then with left arm and right leg - 5 times (total of 10 on stomach); Toe touch - 5 times; Hops on each foot - 10 times; Side straddle hops counting each hand touch - 10 times.
Relays: Kangaroo - Latchaw, p. 193; Beat the Bunny - Latchaw, p. 75; Jump 1-2-3 - Latchaw, p. 213.

They did the exercises quite easily and they need to go to the bent knee sit-ups because the hands extended above the head is too easy for them. A few of them need work on touching their toes without bending their knees. In the relays, they did Kangaroo race and Jump 1-2-3 well enough, but they had trouble with Beat the Bunny. I don't know if they just didn't understand the game or if they just got so excited when someone dropped the ball that they forgot what the purpose of the game was. They never did overlap in this game. They did Kangaroo race pretty well and only one person had trouble jumping the rope in Jump 1-2-3. He was slower than the others, but he could do it.

March 29, 1967 (younger group)

Bent knee sit-ups - 10 times; Toe touches - 10 times; Alternate toe touch - 20 times; Side straddle hop - 10 times; Windmill - 10 times - State Dept. of Educ., p. 119; Squat thrust - 5 times; Running in place; Skipping; Jumping rope; Circle dodge ball.

The exercises did not give any of them any trouble. They can do them all, even the squat thrust. They really enjoy jumping rope. They like to jump by themselves, however, if they are too good at jumping. They all enjoyed Circle dodge ball. They followed the rules real well and threw only at the legs of the person in the center.

April 5, 1967

Bent knee - 10 times; Running in place - 2 minutes; Norwegian ball.

Classes 8 & 9 - Experimental Group (continued)

They enjoyed this game as well as kick ball and in this game they all got to kick so there were not any who didn't get a kick like in kick ball. They had no trouble with the exercises except some have a little trouble doing ten, but they will work up to it. Both groups were together again today.

March 15, 1967

Sit-ups - 15 times; Toe touches - 15 times; Hop on each foot; Side straddle hop - 15 times; Kangaroo race; Rope Jumping - 3 minutes.

Today was the first day I worked with the children. They did the exercise almost too easily. They played together and got along well together. A couple of the children could not jump rope very good, but they did not seem to have trouble hopping on one foot. On the sit-ups, they did not have any trouble, so I will work with them on the bent knee sit-ups.

March 29, 1967

Bent knee sit-ups - 15 times; Toe touches - 10 times; Alternate toe touch - 20 times; Side straddle hop - 20 times; Squat thrust - 10 times; Running in place - 2 minutes; Skipping - 2 minutes; Jumping rope - 2 minutes; Circle dodge ball - Latchaw, p. 87.

I have seven students, five boys and two girls. They do the exercises real well. Running in place seemed to make them want to play. They will not stay in one place. All seemed to skip and jump rope except Mae; she has trouble with this, but she tried real hard to do as I told her. Most of the students followed instructions better than I expected.

April 5, 1967

Bent knee sit-ups - 10 times; Running in place - 2 minutes; Norwegian Ball - Blake and Volp, p. 87.

Carol and I teamed up again to play Norwegian Ball. Children liked this game and all three classes played well together. The children are beginning to follow instruction better than at the start of our program.

April 12, 1967

Toe touches; Bent knee sit-ups; Leg lifts; Wing stretcher; Alternate toe touch; Wood chopping; Running in place; Side straddle Hop; Side bending; Bounce ball relay; Bean bag balance relay; Over and under relay.

Some of the students had trouble keeping up with me on the grass drills and I think I need to slow them down a little more. As a whole they did real well in the relays and had no trouble understanding. It worked out real well because a different team won each relay so there wasn't much

Classes 8 & 9 - Experimental Group (continued)

arguing. Almost all of them can bounce a ball good. A few had trouble and will need work. The bean bag balance relay was real cute. They all thought it was going to be real easy, but they found it wasn't as easy as it looked. All three groups were together and they got along quite well.

April 19, 1967

Toe touches - 10 times; Alternate toe touches - 10 times; Running in place - 2 minutes; Side bending - 10 times; Side straddle hop - 10 times; Soccer kick ball - Nagel and Moore, p. 237.

They did real good. They enjoyed the game and they understood it. The only trouble we had with them was that they kept wanting to kick it high in the air instead of low and between the poles. They all are pretty good at kicking skills and can control the ball pretty well with their feet.

April 26, 1967 (younger group)

Rhythms - exercise to a tune Head Shoulders Knees and Toes; Sang to the tune: "There is a Tavern in the Town"; Touch each part of the body as you sing the song and exclude one word each time, but point to it anyway.

Head Shoulders Knees and Toes, Knees and Toes
Head Shoulders Knees and Toes, Knees and Toes
Eyes and Ears and Mouth and Nose
Head Shoulders Knees and Toes, Knees and Toes

Did You Ever See A Lassie - Latchaw, p. 223; Lemi sticks to the rhythm of locomotor movements of walk, run, skip, hop, jump, leap, slide, gallop. Relay: Arithmetic relay, each person in the line writes a number on the board and the last person adds up the figures. The answer must be right in order for the team to win.

The only problem with rhythms is getting the boys to join in. They think it as being sissy and it is hard to keep their attention. Everyone liked the exercise to the tune. They like the lemi sticks, but they beat the whey out of the floor and it's difficult to get them to stop beating long enough to listen. They all enjoy the relays and I think this is one of the better things to play when inside.

May 3, 1967

We started on track and field events. We gave them each a card with the events that we are going to do which includes basketball and softball throw, 50-yard dash, obstacle race, shuttle run, and football punt. We started with the basketball throw today, but we didn't get completed. It is going to take longer than we thought to run these tests. They liked the idea of being in track and field events and having what they do recorded. I don't know if we will be able to finish all the items, but I hope so.

Classes 8 & 9 - Experimental Group (continued)

The items we have on the cards are:
Basketball throw - Scott and Crafts, p. 114
Softball throw - Scott and Crafts, p. 113
50-yard dash - Scott and Crafts. p. 29-40
Obstacle race - Mathews, p. 133
Football punt - Mathews, p. 113
Shuttle run - Mathews, p. 177

April 12, 1967

Toe touches - 10 times; Bent knee sit-ups - 5 times; Leg lifts - 5 times; Wing stretcher - 10 times; Alternate toe touch - 10 times; Wood chopping - 5 times; Running in place - one minute; Side straddle hop - 5 times; Side bends - 5 times; Bounce ball relay; Beanbag Balance relay; Over and under relay.

Ran over time today, about 10 minutes; the teachers did not mind, and the children enjoyed today very much. I learned today one of the boys was expelled. The rest of the children played better without him and they followed instruction better.

Daily Schedule for Thursdays

March 30, 1967

At the beginning of the period, I gave the children a basic going over in free exercise. As the general procedures become fundamental, I wanted them to do their exercises more vigorously; so, I made them do it very fast. I felt that the children should work hard. This way makes them feel as though they are exerting their maximum efforts. The children enjoyed this very much, except a few were very reluctant to do so. Another exercise which I use every day is called the wave or reaction drill. I have the children run in place; to the left, to the right and back, while giving them signals from my hand. The children liked this exercise very much. As they were doing it they were paying very close attention and laughing. This laughing showed that they enjoyed the exercise. I noticed that some of the children's reactions were very good. However, some of the children did not quite run in the direction told. After this exercise, I had the children play Circle dodge ball. The reactions of the children in the circle were pretty good. The others' reactions were slow and incomprehensive. These slow and dull characteristics were attained by the children who need more timing and reaction work. However, their enthusiasm for the game was always at its peak. Lots of children have high competitive spirit while some just have a lackadasical attitude. This could be an inferior or just a bad attitude for having friends. This complex must be corrected. Also, I had the children do relay races which they enjoyed very much. To strengthen their reflexes and reactions I had the children balance a ball in the cup or palm with arm extended straight out.

Classes 8 & 9 - Experimental Group (continued)

They ran to me (about 15 yards) with the ball in the right, then switching it back to the left, while running back. This game, I felt, built coordination, sense of balance and individual performance to excell. The children liked them very much. Another exercise that I did was to teach them soccer fundamentals while kicking the ball from one side of the foot to the other. Some children enjoyed this very much. Others did need special instruction very much. At the end, the children liked what they did.

April 6, 1967

I lined the children up in learning lines. Before I ever began the session, I explained to them that I wanted no trouble and meant business. They knew it and listened to me like a champ this period. One of the boys that I scolded last period came up and talked to me. I felt that he was real glad to see me and I was real glad because he must have learned by my teaching. As usual, I gave them free exercise. They did and tried every thing real hard. I felt very satisfied with the way things were going. The free exercise period this session included three new exercises. These were: (1) Wing stretcher, (2) Sawing wood, and (3) Chest builder. They enjoyed these activities very much. Then, I got to explain beat-ball. The children played this game with much enthusiasm. I was the pitcher, which made matters much more interesting. The general satisfaction that I received from seeing them do things properly makes my heart quiver inside. After this game, we all ran a long distance run and a few relay races. Also, I included the wave drills or reaction drills. This session I elected Bill and Mark captains so they would understand leadership, responsibility, respect, courtesy, and pride. I stressed to them why I did this. Because of the past situations, I wanted them to tell their ball players what to do. By this, they expected their players to listen to them. This made them understand what it means when their teachers tell them what to do. The understanding of this matter will greatly help them to respect and give their teachers courtesy. By this, I accomplished a great deal in satisfaction.

April 20, 1967

Alternate toe touches - 20 counts; Jumping jacks - 20 counts; Arm rotations; Toe touch to back and heel - 15 counts; Running in place - one minute.

Since I gave them a dash test last time, I felt as though only one week at a time would not be sufficient. Therefore, I gave them the same basic pattern of events as I did for April 18. However, my observance of the children's reactions were rewarding. Every one of the children improved on their time. As they started to listen for the commands, their overall enthusiasm was greater. Their keenness in hearing for the starting signs and their reaction to taking off was greatly improved. After this was completed, I gave them the starters position in track. I was really impressed at some of the kids reactions. Bill was back today. Therefore,

Classes 8 & 9 - Experimental Group (continued)

as you might expect by now, he was very out of place. He was wild and exuberant to the 3rd degree. However, some children really resented this. They wanted to learn what I had told them.

April 27, 1967

Toe touches - 15 counts; Push-ups - 5 counts; Squat thrusts - 10 counts; Truck twisting - 20 times (back-side-front-side); Chest building - 20 times.

This period I did not time the students in any races. However, I gave them a 25 yard team relay race with passing the baton. Both of the teams ran the race with extreme skill, but some of them were rambunctious in passing the baton. Also, another relay race that I ran was - station 1 - 10 yards away, jump rope; 15 yards to next post; back 15 yards to rope jump again, then to start (each team member does this routine). After this I had them practice the hop, step, and jump. I gave them a starting line. When they came to this point, their coordination in performing the steps of this event was mixed up. They could not relate to themselves the proper way. Some did the broad jump. However, I made them do the event step by step so they may experience some benefits the next time I teach this.

May 4, 1967

Trunk twisting - 20 times; Push-ups - 5 times; Arm rotation - 20 times; Alternate toe touches - 20 counts; Jumping jacks - 20 counts.

This period I taught them the hop, step, jump. Their coordination in executing the various steps was much better. However, some of them did not have the strength to complete this event. Next, I ran them in the complicated relay race that I had given to them on April 24. They jumped the rope better and passed the baton with a little more skill. After this, I ran them in a regular team competitive 25 yard dash.

Daily Schedule for Fridays

March 31, 1967

Bent knee sit-ups - 10 times; Toe touch - 10 times; Side straddle hop - 20 times; Chinese get-up - 5 times; Running in place - 2 minutes; Sit down get up - 3 minutes; Kick ball.

They did most of the exercises easily enough, they had trouble with Chinese get up. Mark and Billy wanted to wrestle while on the ground, they did not try to get up. The rest of the class tried but none really did this right. I also had the other class today. They did not give me any trouble. The two groups played well together. On the kick ball some of the older children started fussing at some of the smaller children because they were not as good at kick ball as they were, but I kicked the ball and told the

Classes 8 & 9 - Experimental Group (continued)

one fussing when they could kick the ball as far as I could, then they could fuss at the other children. This seemed to shut them up.

April 7, 1967

Running in place - 2 minutes; Wing stretcher - 15 times; Push-ups - 10 times; Squat thrust - 15 times; Beat Ball.

Today we played Beat Ball. The children were real interested in this and played well. Billy and Mark would not do anything. They distracted the other children. I sat Billy down and that settled the other children, and for the rest of the time they did good.

CLASSES 6 & 7 and CLASSES 10-13 - EXPERIMENTAL GROUP
Structured Physical Activity

The following list of exercises describes the general structured physical activity that classes 6 and 7 and classes 10 through 13 in the experimental group received. Further comments on the activities in these classes are not available.

1. Beat Ball
2. 5-3-1 Basketball
3. Free and Caught
4. Keep Away
5. Chain Tag
6. Locomotor Relay
7. Circle Relay
8. Circle Weave Relay
9. Pass and Squat Relay
10. Kick Ball
11. Hop Scotch
12. Jump Rope

* * *

The diaries shown above are complete and unedited. Several things should be noted about the diaries kept by the physical education students. First, each student was allowed to choose the exercises that would be used in the class he was leading. Therefore, a wide range of exercises can be observed in the diaries. Second, the physical education students were asked to judge the effect of their presence and the exercises that they administered. It may be inferred from the tone of the diaries that each student approached his class in a slightly different manner. Third, no attempt was made by the investigators to dictate to the physical education

students the form or type of diaries that would be kept on the daily activities. The actual details of the administration of the structured physical activities and the diaries were left to the discretion of the individual physical education students.

Further aspects and implications of the aforementioned differences are discussed in Chapter V, "Conclusions", of this report.

A problem not anticipated by the investigators was the physical education students' lack of knowledge in the area of the education of children with minimal brain dysfunction.

During the first week of the experimental treatment one of the investigators talked with Mrs. Owen's "Adapted Physical Education" class. The purpose of the discussion was to inform the class of the experimental design and the role they would play in the culmination of the study. The class seemed enthusiastic, but further discussion revealed their lack of understanding of the learning disabilities of the child with minimal brain dysfunction. By citing case histories of children with minimal brain dysfunction the investigator discussed the child's learning disabilities as well as the secondary emotional problems caused by these learning disabilities. The purpose of this discussion was not to give the physical education students a sophisticated understanding of children with minimal brain dysfunction, but rather to help the physical education students understand the children's reactions to them and the experimental treatment.

During the eight weeks of the experimental treatment the investigators evaluated the preliminary data. The classes in the experimental group received structured physical activity for eight weeks. Monday following the last Friday of the experimental treatment post-testing of the experimental group began. On the post-test,as on the pre-test ,the Johnson Test was used to measure motor skill development.

It was not possible to secure the same mats that were used in the pre-test. Unfortunately, the mats used in the post-test were a different color. The mats in the pre-test were white. On the post-test two different shades of blue were used. Because it was necessary to place the mats

end-to-end to secure the dimension called for by the Johnson Test, the investigators decided to have each set of mats two-tone rather than one two-tone set and one solid. The same colors of tape were used to designate the blocks of the mats for the administration. Realizing that some confusion might arise from the use of the two-tone mats, the investigators were particularly careful while explaining the mat to the children prior to the actual administration of the post-test. To further insure external validity each class was tested on both the pre-test and the post-test by the same team of investigators. The general procedures of the post-testing were identical to the procedures used in the administration of the pre-test. In every case the pre-test and post-test were administered in the same room of the school, thus eliminating extraneous stimuli that might have been present during one of the testing sessions. This further insured internal validity.

In order that internal validity might be strengthened, the investigators asked that the classroom teachers in the Perceptual Development classes fill out the following form. (See following page.) As can be seen, this allowed the investigators to estimate the amount of unstructured physical activity that each class in the control group received. Also included in the questionnaire were two lists in which the classroom teacher was asked to rate her pupils, subjectively if necessary, in the order of their ability to perform tasks involving perception and motor skills. This data was collected while the subject children took the post-test. The teacher was given the questionnaire and asked to fill it out while the post-test was administered. Any questions that arose concerning the questionnaire or its purpose were answered by the investigators. Further use of the data will be explained later in this report.

Teacher's Questionnaire

To better understand the results of these scores, additional information is necessary. Please answer the following questions.

1. Rank your students according to their abilities, best to worst, in the following areas:

A. Perception	B. Motor Skills
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

2. Do the children get regular planned physical activity?
3. Do they get planned physical activity other than during the daily recess period?
4. How many hours per week do they get planned physical activity?
5. Is the activity led by the teacher?
6. What exercises are used?
7. Are they similar to the ones given today?
8. Are any of them the same as the ones given today?
9. Do you feel that an increased amount of planned physical activity would be advantageous to the students?

CHAPTER IV

RESULTS

In order to evaluate the programs of the study, the pre-test and post-test data were analyzed statistically. The difference in the pre-test post-test class means was used to determine motor skill development. (See Table I.) For the purpose of the following discussion, the scores reported will represent the difference in the pre-test, post-test mean scores of each class involved in the study.

As is readily seen in Table I, the scores in the control group range from 3.5 to 18.3, while the scores in the experimental group range from 5.3 to 20.8.

The mean difference scores computed upon the control group is 7.8. This difference score mean may be attributed to testing, i.e., a certain amount of learning takes place during or as a resultant of the pre-test.

To determine whether the differences in the class means was significant, an analysis of variance was computed upon the difference scores of the two groups. (See Table II.) As a result of the one-way analysis of variance, an F (1,22) value of 14.6 was calculated. This is statistically significant at $P < .01$, i.e., only one time in a hundred could this result be expected by chance occurrence.

Data investigation by class and time-dimensions (see Table III) revealed a trend toward significance with interaction between the amount of structured physical activity, the age of the child, and the motor skill development. This trend toward interaction may have been caused by either

the child's natural maturation, the child's previous learning experiences in the Perceptual Development classes, and/or awareness of testing variables. It should be noted that the subjects' performance on the Johnson Test was not effected by age, per se, but by the aforementioned criteria that may be correlated with age in the average classroom situation.

Two of the classes in the experimental group had mean increases of 5.3 and 7.5, both of which are below the average increase of the control group. Likewise, one class in the control group had an increase of 18.3, which is far above the average increase of the experimental group. These three cases may be attributed to regression, i.e., the universal tendency for extreme scores to be closer to the true mean on the second test in a design of this nature. Another possible explanation for these three scores is the inconsistencies in the experimental treatment, i.e., the treatment was administered by different physical education majors whose methods of instruction varied. These three cases offer no serious threat to the internal validity of the study.

As stated previously, the Johnson Test had never before been used in an experimental design of this nature, to the knowledge of the investigators. Therefore, it was necessary to re-establish reliability. This proved to be no easy task. Realizing that the test items were not evenly weighted, that various degrees of testing-treatment interaction had taken place, and that the test items were not correlated, the investigators chose to use the Horst formula[10] to determine the reliability coefficient. The Horst formula, using mean scores as a measure, would give the best

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[10] Gage, N. L. Handbook of Research on Teaching, (Chicago, Illinois: Rand-McNally and Company, 1965), pp. 348, 349.

descriptive picture of the reliability of the testing in the opinion of the investigators. Twenty-two scores were picked at random from the control group only. Scores from the experimental group are not acceptable data for the determination of a reliability coefficient. This follows from the definition of reliability — "the proportion of the 'true' variance to the total obtained variance of the data yielded by a measuring instrument."[11] Naturally, because of the experimental treatment, one expects a change in the scores of the experimental group. Therefore, only scores from the control group were considered. A reliability coefficient, r, of .872 was determined. A r of .500 is acceptable in studies of this nature where it is not necessary to infer a score in another area from a score obtained previously. (See Table IV.)

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[11]Kerlinger, Fred N. Foundations of Behavioral Research, (New York: Holt, Rinehart & Winston, Inc., 1965), p. 434.

Table of Means of the Difference Scores

Experimental Group	Control Group
7.5	10.4
16.4	7.7
18.3	3.6
9.7	18.3
11.5	3.5
8.9	5.8
11.5	8.1
5.3	6.9
19.0	8.7
8.5	9.2
9.4	3.5
20.4	
20.8	

X	167.3		85.7	X	253
$(\Sigma X)^2$	27989.3		7344.5	$(\Sigma X_t)^2$	64009
X^2	2496.8		847.1	X_t^2	3343.9
$\bar{X}$	12.9		7.8		

TABLE I

Table of Analysis of Variance Computations

Source	df	ss	ms	F
Between	1	269.07	269.07	14.6 (.01)
Within	22	407.79	18.5	

TABLE 11

Table of Analysis of Class and Time Dimensions

Source	df	ss	ms	F
Between columns	5	83.2	16.6	.84 (ns)
Between rows	2	66.3	33.2	1.66 (ns)
Interaction B X C	3	196.6	65.5	3.3 (.15)
Within Group Variance	2	40	20	

TABLE III

Table of Horst Formula of Reliability

$$r = 1 - \frac{\frac{\Sigma 6_i^2}{N}}{\Sigma 6_m^2}$$

$$r = 1 - \frac{\frac{520.00}{11}}{366.50}$$

$$r = 1 - \frac{47.27}{366.50}$$

$$r = 1 - .128$$

$$r = .872$$

r = estimate of reliability of individual means

N = number of persons rated

m_i = mean of the ratings received by person i

n_i = number of the ratings made of each person i

6_i = standard deviation of the ratings of person i

6_m = standard deviation of the mean ratings received by the N person

TABLE IV

CHAPTER V

CONCLUSIONS

The objectives of this study were three-fold.

1. Determine the effect of structured physical activity on the motor skill development in the child with minimal brain dysfunction.

2. Compare the effect of a program of structured physical activity to the effect of unstructured activity on the motor skill development in children with minimal brain dysfunction.

3. Determine the effect of an increased amount of time of physical activity on the acceleration of motor skill development in children with minimal brain dysfunction.

To better understand the findings outlined in the previous section, the data will be reviewd in relation to the aforementioned objectives.

As shown by Table I on page 54, the group mean of the classes receiving structured physical activity increased 12.9 points out of a possible 100 points on the Johnson Test. From this it may be inferred that structured physical activity does increase the score on the Johnson Test, a measure of motor skill development. Therefore, it may be concluded that structured physical activity does increase motor skill development.

It has been shown by the high F (1,22) ratio obtained that there was a statistically significant difference between the experimental group and the control group. The mediating variables present in the structure of the design were held constant by methods described in the "Procedures" section of this report. Some of the mediating variables present were testing treatment interaction, test administration procedures, and the syndrome of the subject children. It may be inferred that the independent

variable, e.g., the form of physical activity administered to each group in the study, did indeed produce the change between the groups that was evidenced by the F ratio of 14.6 with probability level of $P < .01$.

An analysis of variance of class/time dimensions (Table III) revealed a trend toward interaction between amount of structured physical activity, age, and motor skill development. There appears to be some relation between these factors, but the data obtained in this study does not demonstrate a statistically significant interaction.

Several studies may be suggested from the data obtained in this study. As can be seen from the included diaries of the physical education students several different approaches were taken toward the physical activity administered. Some of the students used exercises designed to promote agility. Others used exercises to promote endurance. No attempt was made in this study to determine which of these approaches or what combination of these best facilitated the development of motor skills. Another phase of the problem left for the most part unanswered was the relationship between schedule of structured physical activity per week and motor skill development. No attempt was made to determine exactly how long the structured physical activity should last each day or whether the program of structured physical activity should be administered daily. A longitudinal study to determine the effect of the eight-weeks pilot program of structured physical activity on the child's projected motor skill development would be beneficial in that it would answer the question, "To what level of formal education should physical education be required?"

Intuitive evidence observed by the investigators at the time of the administration of the post-test suggests several other studies.

Even though the Johnson Test is not affected by age, per se, many factors correlated with age in modern American education do play a part in the subject children's performance on the Johnson Test. Most evident of these is testing-treatment interaction, e.g., the subjects were made aware by the testing experience that they were incapable of performing the task. Also, the items on the Johnson Test are not evenly weighted, e.g., one type of exercise recurs on the test. As noted before, a major drawback in the wide-spread use of the Johnson Test is the necessity of the use of the cumbersome mats. The Johnson Test, created before the syndrome of the subject children was known, measures motor skill development, but it does not take into account the special problems of children with minimal brain dysfunction. The investigators observed that a majority of the subject children could not perform two of the items on the Johhson Test, not because of lack of motor skills, but because of lack of ability to follow the intricate pattern described in the exercises. Dr. Leo J. Kelly suggested that a problem of laterality was also involved in this difficulty. A criterion measure developed to compensate for these deficits of the Johnson Test would be beneficial both to the teachers of physical education classes and to the students involved. A test administered by the classroom teacher to determine the motor skill deficits of children with minimal brain dysfunction would allow exercises to be prescribed to overcome these deficits. Several of the classes in the control group received physical activity, but it was not coordinated and individualized for the needs of the class. Only through the use of a standardized measure can this come about.

The investigators noticed two unexpected phenomena in the classroom

as they administered the post-test. Perhaps most noticeable was the subject children's change in attitude toward their own classmates. During the pre-test the children had been hostile, almost cruel, toward each other as they performed the test items. During the post-test such comments as, "That's good, Johnny," or, "At least he tried," could be heard as the children performed the tasks of the Johnson Test. Discipline problems for the investigators were not so frequent. During the pre-test it was quite difficult to keep the children from antagonizing the child performing. Durin ghe post-test everyone seemed to be hoping for everyone else's success on the test. The children in the experimental group during the eight-weeks treatment period had learned to interact as a group with their peers.

A study to determine the relationship between structured physical activity and peer-group interaction would be useful in helping educators better understand the problems of these isolated children. The second phenomena noticed by the investigators was the child's increase in self-concept. The children in the experimental group seemed almost eager to perform. They seemed to have more confidence in their own abilities. Woolner (1966) states that self-concept is more nearly related to school achievement than I.Q. A study to determine the effect of structured physical activity on the subject children's self-concept might be suggested. These are but a few of the possible studies that would better illumine the area of structured physical activity on motor skill development in children with minimal brain dysfunction.

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